

WHAT IS CLAIMED IS:

1. A method for forming perforations in a sheet of media with a perforation system, comprising the steps of:

generating graphics data;

defining a non-printed color to represent perforation locations;

5 embedding said non-printed color in said graphics data for a current perforation job;

providing an identifier for identifying said non-printed color in said graphics data;

read said graphics data including said non-printed color;

10 using said identifier, identifying a plurality of perforation locations based on said non-printed color; and

performing perforation of said sheet of media in accordance with said identifying step.

2. The method of claim 1, said embedding step further comprising the step of associating said plurality of perforation locations with a boundary of an image represented in said graphics data.

3. The method of claim 1, said embedding step further comprising the step of associating said plurality of perforation locations with a polygon that intersects a boundary of said image at least at one perforation location.

4. The method of claim 3, wherein said polygon is a rectangle.

5. The method of claim 1, said embedding step further comprising the step of associating said plurality of perforation locations with a polygon that surrounds a boundary of said image but does not intersect said boundary of said image.

6. The method of claim 5, wherein said polygon is a rectangle.

7. The method of claim 1, further comprising the step of adjusting parameters of a perforation apparatus in accordance with said current perforation job.

8. The method of claim 7, said adjusting step further comprising the step of adjusting a perforation density of said plurality of perforation locations.

9. The method of claim 8, wherein said perforation density is dependent on at least one of a print mode, a media type and a media thickness.

10. The method of claim 8, wherein said perforation density is set to form a cut.

11. The method of claim 7, said adjusting step further comprising the step of adjusting a perforation speed of forming said perforations at said plurality of perforation locations.

12. The method of claim 7, said adjusting step further comprising the step of adjusting a perforation force of a perforation device that forms said perforations.

13. The method of claim 12, wherein said perforation force is determined by monitoring a motor torque of a motor driving said perforation device.

14. The method of claim 7, wherein said adjusting step further comprises the steps of:

providing a motor coupled to a perforation device, said perforation device including a tip portion for puncturing said sheet of media to form said perforations;

5 monitoring a motor torque of said motor as said perforation device punctures said sheet of media;

associating said motor torque with a perforation force required for said perforation device to puncture said sheet of media; and

10 adjusting at least one of said perforation force, a perforation density and a perforation speed based on said motor torque.

15. The method of claim 14, wherein the step of adjusting said perforation force is performed at a first perforation location occurrence of said plurality of perforation locations.

16. The method of claim 1, wherein along with performing the step of performing perforation, said method further comprising the step of printing said graphics image on said sheet of media.

17. The method of claim 16, wherein said perforation and said printing are performed simultaneously for a given printing swath.

18. The method of claim 16, wherein said perforation and said printing are performed sequentially for a given printing swath.

19. The method of claim 1, wherein said identifier is a color sequence associated with said non-printed color.

20. A perforation system for forming perforations in a sheet of media, comprising:

a computer configured to perform the steps of:

generating graphics data;

5 embedding a non-printed color in said graphics data for a current perforation job, said non-printed color representing perforation locations; and

providing an identifier for identifying said non-printed color in said graphics data; and,

10 an apparatus communicatively coupled to said computer, said apparatus being configured to perform the steps of:

reading said graphics data including said non-printed color;

using said identifier, identifying a plurality of perforation locations based on said non-printed color; and

15 performing perforation of said sheet of media in accordance with said identifying step.

21. The perforation system of claim 20, said apparatus being configured to perform the steps of printing said graphics image on said sheet of media along with performing the step of performing perforation.

22. The perforation system of claim 20, said apparatus being further configured to perform the step of adjusting parameters of said apparatus in accordance with said current perforation job.

23. The perforation system of claim 22, wherein said adjusting step comprises adjusting a perforation density of said plurality of perforation locations.

24. The perforation system of claim 23, wherein said perforation density is dependent on at least one of a print mode, a media type and a media thickness.

25. The perforation system of claim 23, wherein said perforation density is set to form a cut.

26. A method for forming perforations in a sheet of media with a perforation system, comprising the steps of:

- scanning an image formed on a medium to generate graphics data;
- identifying to said perforation system a plurality of perforation locations
- 5 associated with said graphics data for a current perforation job;
- adjusting parameters of a perforation apparatus in accordance with said current perforation job; and
- performing perforation of said sheet of media in accordance with said identifying and adjusting steps.

27. The method of claim 26, said identifying step further comprising the step of associating said plurality of perforation locations with a boundary of said image.

28. The method of claim 26, said identifying step further comprising the step of associating said plurality of perforation locations with a polygon that intersects a boundary of said image at least at one perforation location.

29. The method of claim 28, wherein said polygon is a rectangle.

30. The method of claim 26, said identifying step further comprising the step of associating said plurality of perforation locations with a polygon that surrounds a boundary of said image but does not intersect said boundary of said image.

31. The method of claim 30, wherein said polygon is a rectangle.

32. The method of claim 26, said adjusting step further comprising the step of adjusting a perforation density of said plurality of perforation locations.

33. The method of claim 32, wherein said perforation density is dependent on at least one of a print mode, a media type and a media thickness.

34. The method of claim 32, wherein said perforation density is set to form a cut.

35. The method of claim 26, said adjusting step further comprising the step of adjusting a perforation speed of forming said perforations at said plurality of perforation locations.

36. The method of claim 26, said adjusting step further comprising the step of adjusting a perforation force of a perforation device that forms said perforations.

37. The method of claim 36, wherein said perforation force is determined by monitoring a motor torque of a motor driving said perforation device.

38. The method of claim 26, wherein said adjusting step further comprises the steps of:

providing a motor coupled to a perforation device, said perforation device including a tip portion for puncturing said sheet of media to form said perforations;

- 5 monitoring a motor torque of said motor as said perforation device punctures
said sheet of media;
 associating said motor torque with a perforation force required for said
perforation device to puncture said sheet of media; and
 adjusting at least one of said perforation force, a perforation density and a
10 perforation speed based on said motor torque.

39. The method of claim 38, wherein the step of adjusting said perforation force is performed at a first perforation location occurrence of said plurality of perforation locations.

40. The method of claim 26, said identifying step further comprising the step of:
defining a non-printed color to represent said plurality of perforation locations;
embedding said non-printed color in said graphics data for said current
perforation job; and

- 5 providing an identifier for identifying said non-printed color in said graphics data.

41. The method of claim 40, wherein said identifier is a color sequence associated with said non-printed color.

42. The method of claim 26, wherein along with performing the step of performing perforation, said method further comprising the step of printing said graphics image on said sheet of media.

43. The method of claim 42, wherein said perforation and said printing are performed simultaneously for a given printing swath.

44. The method of claim 42, wherein said perforation and said printing are performed sequentially for a given printing swath.

45. A perforation system for forming perforations in a sheet of media, comprising:

a scanner for scanning an image formed on a medium to generate graphics data;
 a computer communicatively coupled to said scanner, said computer configured
 5 to identify a plurality of perforation locations associated with said graphics data for a
 current perforation job; and
 an apparatus communicatively coupled to said computer, said apparatus
 including a perforation mechanism, said apparatus being configured for performing the
 steps of :
 10 adjusting perforation parameters in accordance with said current perforation job;
 and
 perforating said sheet of media in accordance with said adjusting step.

46. The perforation system of claim 45, said apparatus being configured to
 perform the step of printing said graphics image on said sheet of media along with
 performing the step of performing perforation.

47. The perforation system of claim 45, wherein said adjusting step comprises
 adjusting a perforation density of said plurality of perforation locations.

48. A method for carrying out combined printing and perforating of a sheet of
 print media, comprising the steps of:

- (a) formatting graphics data into a plurality of print swaths for printing by a
 printhead on said sheet of print media;
- 5 (b) associating perforation coordinates defining a plurality of perforation
 locations with said plurality of print swaths, for perforation by a perforation mechanism;
- (c) determining whether a first print swath of said plurality of print swaths
 includes any perforation locations;
- (d) performing at least one of said printing and said perforating at said first print
 10 swath;
- (e) advancing said sheet of print media by a predetermined distance less than a
 height of said printhead;
- (f) determining whether a next print swath of said plurality of print swaths
 includes any perforation locations; and

- 15 (g) performing at least one of said printing and said perforating at said next print swath.

49. The method of claim 48, further comprising the step of repeating steps (e), (f) and (g) until said sheet of print media is completely processed.

50. An apparatus, comprising:

a carrier system configured to carry a printhead and a perforation forming mechanism; and

a control unit configured to perform the steps of:

- 5 (a) formatting graphics data into a plurality of print swaths for printing by said printhead;

(b) associating perforation coordinates defining a plurality of perforation locations with said plurality of print swaths, for perforation by a perforation mechanism;

- 10 (c) determining whether a first print swath of said plurality of print swaths includes any perforation locations;

(d) performing at least one of said printing and said perforating at said first print swath;

(e) advancing said sheet of print media by a predetermined distance less than a height of said printhead;

- 15 (f) determining whether a next print swath of said plurality of print swaths includes any perforation locations; and

(g) performing at least one of said printing and said perforating at said next print swath.

51. The apparatus of claim 50, said control unit being configured to repeat steps (e), (f) and (g) until said sheet of print media is completely processed.